

REMARKS

Summary of Office Action

Claims 1, 3, 6-14, 21, 22, 27-30, 35, 37, 40-43, 48, 52, 56 and 60-73 are pending in the above-identified patent application. Of those, each of claims 60 and 61 has been withdrawn from consideration as being drawn to a nonelected invention, and each of claims 62-73 has been withdrawn from consideration as being drawn to a nonelected species.

The Examiner has rejected claims 1, 3, 6-14, 21, 22, 27-30, 35-37, 40-43, 48, 52 and 56 under 35 U.S.C. § 103(a) as allegedly being obvious from certain prior art allegedly admitted by applicant, in view of Pilipovic U.S. Patent 6,456,982. Claims 1, 3 and 12-14 also have been rejected under 35 U.S.C. § 101 as allegedly being directed to patent-ineligible subject matter.

Summary of Applicant's Reply

Applicant has amended claims 1, 6, 7, 9, 10, 21 and 35 in order to more particularly define the invention. The Examiner's rejections are respectfully traversed.

Applicant's Reply to the Rejection Under 35 U.S.C. § 101

Claims 1, 3 and 12-14 have been rejected under 35 U.S.C. § 101 as allegedly being directed to patent-ineligible subject matter. This rejection is respectfully traversed.

Applicant questions the procedural propriety of reinstating this rejection after having previously withdrawn it. Nevertheless, in order to advance prosecution of this application, applicant has amended claim 1 to make explicit the processor that the Examiner found implicit in claim 6. In addition, for consistency, applicant has similarly amended claims 6, 7, 9, 10 and 21, which have not been rejected.

Applicant's Reply to the
Rejection Under 35 U.S.C. § 103

Claims 1, 3, 6-14, 21, 22, 27-30, 35-37, 40-43, 48, 52 and 56 have been rejected under 35 U.S.C. § 103(a) as allegedly being obvious from certain prior art allegedly admitted by applicant, in view of Pilipovic U.S. Patent 6,456,982. This rejection is respectfully traversed.

The Examiner's position appears to be as follows:

1. Pilipovic shows that calculations can be made to predict prices and that those calculations can be based on Brownian motion.*
2. Although applicant's claims no longer recite the term "Brownian motion," the mathematical relationships in the claims can be derived from the description of Brownian motion in the allegedly admitted prior art.
3. The allegedly admitted prior art also teaches that if a particle follows Brownian motion, its movements are erratic or haphazard,

* It is well-settled that a reference must be enabling. "In determining that quantum of prior art disclosure which is necessary to declare an applicant's invention 'not novel' or 'anticipated' within section 102, the stated test is whether a reference contains an 'enabling disclosure'... ." In re Hoeksema, 399 F.2d 269, 158 USPQ 596 (CCPA 1968). "The disclosure in an assertedly anticipating reference must provide an enabling disclosure of the desired subject matter; mere naming or description of the subject matter is insufficient, if it cannot be produced without undue experimentation." MPEP § 2121.01 (emphasis added), citing Elan Pharm., Inc. v. Mayo Found. For Med. Educ. & Research, 346 F.3d 1051, 1054, 68 USPQ2d 1373, 1376 (Fed. Cir. 2003). Thus, the mere reference to Brownian motion by Pilipovic, without more, is insufficient. Although Pilipovic remains available for obviousness (MPEP § 2121.01(II)), and the Examiner has combined Pilipovic with the allegedly admitted prior art, as discussed below even that combination does not result in the invention as currently claimed.

corresponding to one of the three conditions originally found in applicant's claims.

4. Only one of the three conditions needs to be in the art, even though they are recited conjunctively (i.e., with an "and").
5. Therefore, applicant's claims are obvious.

Applicant respectfully disagrees with the Examiner for a number of reasons:

- A. As previously argued, Pilipovic mentions that others before her tried to use Brownian motion, but she teaches away from using it. Therefore, no other teaching in Pilipovic can properly be combined with any other reference (including the allegedly admitted prior art) that includes teachings regarding Brownian motion.
- B. The conditions in applicant's claims are conjunctive and therefore all of them need to be in the references to defeat patentability of the claims
- C. MOST IMPORTANTLY, the Examiner appears to have overlooked that in a previous amendment filed October 1, 2009, the one condition, out of the three original conditions, that the Examiner was able to allegedly find in the references -- i.e., that when said first range of said price data ... equals said range of said price data expected, based on Brownian motion, ... said system is varying erratically -- WAS DELETED FROM CLAIMS 1, 22 and 35. The claims now contain only two conditions, neither of which the Examiner has allegedly found in the references. Indeed, each of claims 48, 52 and 56 contains only one condition, which is

not the one condition the Examiner has allegedly found in the references.

Accordingly, applicant respectfully submits that the independent claims, and therefore by extension all claims, are patentable.

In addition:

- D. Neither Pilipovic nor the prior art referred to by Pilipovic nor the allegedly admitted prior art does not show the particular arrangements of multiple time periods defined by applicant's dependent claims, and certainly does not show the complicated arrangements of multiple time periods with different starting times defined in amended claims 6-8, nor does it show the predictions defined in claims 10 and 11.
- E. First, the prior art referred to by Pilipovic at most describes the bare use of Brownian motion, even if under a misapprehension of what Brownian motion is. It does not describe any particulars as defined by applicant's claims.
- F. Second, Pilipovic itself does not describe the claimed particulars. The Examiner (in connection only with claims 21, 22, 27-30 and 52, points to column 7, lines 50-62, column 10, lines 35-59, and claim 41 of Pilipovic as showing particulars regarding, inter alia, different time periods.. However, the claimed particulars are not shown in those passages. Column 7, lines 50-62, states:

In accordance with the objects of the present invention, a computer system for generating and testing projected data is provided. The system includes a digital computer connected to means for receiving input data for making projections about a first variable and means for outputting processed data; and logic means for controlling the digital computer. The logic means implements a mathematical technique underlying the present invention. The logic means uses the technique to process the input data to calculate projected data, to test the accuracy of the projected data by calculating

the input data from the projected data, and to generate output including the tested projected data. The projected data can include volatilities for the projected data.

This has nothing to do with the claimed particulars of claims relating to time periods. Column 10, lines 35-59, states:

FIG. 5 shows a representative example of elements of the present invention. There is a digital electrical Computer 1, which can be an IBM, personal computer, a Work Station, or any other digital means for computing. Computer 1 has Central Processor 3, for example, be a 486 processor, and a DOS or a UNIX Operating System. Computer 1 is operably connected to Means for Receiving Input Data 5, such as a keyboard, mouse, or modem. Computer is also operably connected to Means for Outputting Processed Data 17, such as a terminal screen or a printer, to produce Generated Output 9. Computer 1 is operably connected to Memory 11, such as a disk drive and disc, a "hard drive" memory, or the like that can store Logic Means 13 and Stored Data 15. Preferably, aspects of the present invention are implemented in software, i.e., at least one computer program. Alternatively, the present invention can be implemented in a hardwired embodiment, to the extent that all digital computer programs have hardware equivalents. Of course, loading software into a conventional computer in effect makes a new computer by setting switching devices in the computer. Thus, the logic of Logic Means 13 can equivalently be used regardless of whether a hardware or software embodiment is preferred. However, a software embodiment of the present invention is preferred for flexibility and ease of construction.

Again, this has nothing to do with the claimed particulars of claims relating to time periods. Finally, claim 41 states:

41. A computer-implemented method for using a data processing system apparatus comprising a digital electrical computer with the processor operably connected to memory, means for receiving input market data, and means for outputting processed market data, the method including the steps of:
processing, by, logic means direction of processor operations, input historical data entered at the means for inputting data into processed market data, by sub-steps including creating a three-dimensional framework utilizing the input historical data to articulate parameter values by breaking down the input historical data into building blocks with values, and by comparing the building block values so that the parameter values are calibrated for each cell of the three-dimensional framework to project market data by mathematically-expressed econometric relationships; projecting future data with the three-dimensional framework subsequent to the calibrating; and generating output including the future market data at the means for outputting processed data; wherein the step of processing includes computing

$$V[1, n] = \sqrt{n \cdot (M[n])^2 - \sum_{k=1}^{n-1} (V[n-k+1, k])^2},$$

wherein V represents a discrete volatility matrix and is a portion of the projected data, M is a vector representing a

portion of the input data, n represents an index number and
k represents a summation coefficient.

Again, this has nothing to do with the claimed particulars of claims relating to time periods.

For at least these additional reasons, at least dependent claims 6-8, 10 and 11 are patentable, separately from the patentability of the independent claims.

Reservation of Rights

The amendments presented herein are being made solely in order to advance the prosecution of this application. Applicant does not surrender any subject matter thereby, and hereby expressly reserves the right to pursue, in one or more continuing applications, any one or more of the claims as they existed prior to the current amendment, as well as any nonelected invention or species.

Request for Personal Interview

Applicant respectfully request that if, after review of this reply, the Examiner is still inclined to reject the above-identified patent application, the Examiner first telephone the undersigned to arrange a personal interview at the Patent and Trademark Office.

Conclusion

For at least the reasons set forth above, applicant respectfully submits that this application, as amended, is in

condition for allowance. Reconsideration and prompt allowance of this application are respectfully requested.

Respectfully submitted,

/Jeffrey H. Ingerman/

Jeffrey H. Ingerman
Reg. No. 31,069
Attorney for Applicant
ROPES & GRAY LLP
Customer No. 1473
1211 Avenue of the Americas
New York, New York 10036-8704
Tel.: (212) 596-9000